

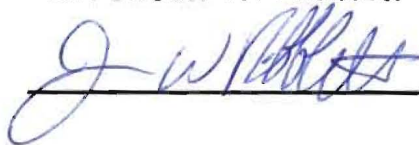
Building a Better Science Day on the Greenway

An Honors Thesis (HONRS 499)

By

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Abstract

Science Day on the Greenway is an annual event hosted by the Student Affiliates of the American Chemical Society, created by SAACS members Loc Dang and Mary Borger in 2004. The primary goal of this event is to create and develop interest in the sciences among elementary and junior high students in the Muncie area. The event consists of many tables with various science demonstrations and activities for children, set up over a one mile stretch of the Cardinal Greenway between the Wysor Street Train Depot and the entrance to McCullough Park. I will improve this event by increasing community awareness, increasing attendance, creating a carnival-like atmosphere, and by designing an experiment booklet for the participants to take home from the event. The booklet will include experiments and demonstrations as performed at Science Day on the Greenway. Documentation will include background information on the event and all steps in planning, executing, and analyzing the success of Science Day on the Greenway.

Acknowledgments

I would like to thank...

- Dr. Jason Ribblett for all of his help with this project. He has put an amazing amount of time and effort into making Science Day on the Greenway what it is today. I would also like to thank him for the countless hours he puts in as the faculty advisor of SAACS. The club has grown and improved in so many ways thanks to his efforts.
- My fellow members of SAACS for helping with the organization, planning, and fund-raising for Science Day on the Greenway.
- Loc Dang and Mary Borger for their impressive work in creating the event.
- All of the Science Day volunteers for their time and effort.
- The Indiana Section of the ACS for their generous donation.
- Hiatt Printing for producing the experiment booklets.
- Outback Steakhouse for their donation
- The staff at the Cardinal Greenway for their cooperation in hosting the event.
- All participants!

In the Beginning

On April 21, 2007 the Ball State University Student Affiliates of the American Chemical Society (SAACS) held the fourth annual Science Day on the Greenway at the Cardinal Greenway in Muncie, Indiana. There were approximately five hundred people who attended the event, and nearly sixty volunteers to help it run smoothly. Parents, grandparents, and children of all ages were having a great time with all of the scientific demonstrations and all participants left with a bag of goodies to extend their fun with science beyond this particular afternoon. Loc Dang and Mary Borger created Science Day on the Greenway as their senior creative project in 2004. They would have been pleased if they could have fast-forwarded a few years to this scene to see what their hard work would become.

Dang and Borger did an amazing job creating Science Day on the Greenway, especially considering that they did not have much to start with. They only had a \$300 budget for the event, which they were able to stretch to cover all supply booths, food, chair rentals, and a variety of miscellaneous costs (Dang 2). Also, since it was a first-time event, they had to personally recruit all volunteers for the event. In the end, they were able to secure some of their friends as volunteers, as well as a variety of students from the Honors College. They were also able to get help from a few student organizations such as the Natural Resources Club, Student Education, and the Student Affiliates of the American Chemical Society (SAACS) (Dang 6).

Dang and Borger's overall plan for the event was to "educate the community in the three main branches of science (chemistry, biology, and physics)." (Dang 2). To accomplish this goal, they had a variety of booths along the Greenway that demonstrated different scientific ideas and concepts. There were a total of fifteen booths as follows: Airness Awareness, Bath Bubblers, Candy Molecules, Density Column, Digestion, Fossils, Gluep, Green Pennies, How Soap Works, Oil Spill, Oobleck, Paper Airplane, Rubber Eggs, Static Electricity, and Volcanic Eruption (Dang 3). In addition to these scientific booths, they invited three speakers to the event. One speaker, Lyla Spath dressed up as a leaf for the event to teach children the different components of a leaf. Dr. Cheryl LeBlanc gave two nature walks on the day of the event, and Robin Dungen of the Minnetrista Center brought several animals for the children to enjoy (Dang 5). Other activities included a scavenger hunt and a prize raffle. Approximately 100 people came to this first Science Day on the Greenway, which ran from 10:00 AM to 4:00 PM. Dang and Borger advertised through the Muncie Star Press and by sending flyers to local elementary and middle schools, churches, and work places (Dang 7).

Plans for Growth

I first volunteered at Science Day on the Greenway in the spring of 2006. By this time, the BSU Chapter of Student Affiliates of the American Chemical Society (SAACS) had taken on Science Day on the Greenway as their annual event. As a member of SAACS, I was involved in the planning for Science Day

on the Greenway 2006, so I saw all of the work that went into the event. I was able to use this experience to help me in the ultimate planning for Science Day on the Greenway 2007. I saw a lot of potential in the event; it was a fun, exciting, and educational day that both children and parents could enjoy.

As a volunteer in 2006, I saw a few specific areas in which I could improve Science Day on the Greenway for 2007. My plans for building a better Science Day on the Greenway centered on better advertising, creating a more carnival-like atmosphere, and providing more giveaways for the participants. The carnival atmosphere was first introduced in the 2006 event with a moon bounce and an additional blow-up play area. The children seemed to love this aspect of Science Day, which is why I wanted to make the event even more carnival-like. In order to do this we planned to rent the moon bounce once again and also add a few carnival games for the children to play, like Hoop-it-Up and a few bean bag toss games. To increase attendance, we planned to distribute the Science Day on the Greenway flyers to more Muncie elementary and middle schools than we had in the past. We would also hang flyers around the Cooper Science building and distribute e-mail to several BSU employees to advertise the event. Finally, I planned to design a complementary experiment booklet for the children to take home from the event. In addition to this booklet, we would order a variety of Chemists Celebrate Earth Day merchandise from the ACS to give away at the event because Earth Day was on April 22 (see Appendix for giveaways). By setting forth and promoting these improvements, I hoped to see the event grow even more.

Preparation for the Event

Preparation for Science Day on the Greenway 2007 began in the beginning of the 2006 Fall semester. At this time, SAACS started fund-raising for the big event with lock and goggle sales. Fund-raising continued throughout the semester with a bake sale and a Mole Day celebration picnic. Official planning for the event came early in the 2007 Spring semester with the first SAACS meeting to get things moving for the event. At this time, we found out that we would be receiving a generous donation of \$2000 for the event from the Indiana Section of the ACS. Thanks to this donation, we would be able to have much more freedom in planning Science Day 2007.

Most of the time and effort for SAACS members in planning the event went into creating experiment booths and running the volunteer orientation meetings. Brainstorming sessions were held at SAACS meetings throughout the semester to decide which booths to include at the 2007 event and also to decide upon the winner of the 2006 T-shirt design contest, who would see their design on this year's T-shirt and receive a \$100 Toys-R-Us gift card. For experiment booths, we decided upon Volcano Eruption, Candy Molecules, Disappearing Color, Density, Shrinky Dinks, Play Dough, Oobleck, Slime, and Film-Canister Rockets. Experimental procedures were obtained from Dang and Borger's thesis and also online from Creative Kids at Home and PBS Kids. Other booths included T-shirt Design Contest, Donation Station, Giveaways, and Recycling. We held volunteer orientation meetings on four separate dates so that each volunteer would be able to make it to at least one meeting. At these meetings,

we allowed the volunteers to sign up for a booth and to become familiar with its experiment and subject matter. These meetings were great, as they allowed volunteers to jump right in on the day of the event. SAACS members were also in charge of seeking sponsors and donations for the event and contacting the rental services for the carnival area.

As a SAACS officer and member I participated in the group brainstorming, planning, and volunteer orientation sessions, but I also did a lot of preparation for the event on my own time. As a part of my senior thesis, I adopted the responsibility of creating the take-home experiment booklet for the event. I was given a budget of \$1200 for the experiment booklets. In order to make the experiment booklet functional, I decided on 70 lb. paper so pages wouldn't easily be torn and a comb binding so that the children could lay the book flat while performing the experiments. To minimize cost, I included only a few of the experiments as seen at Science Day on the Greenway (Slime, Oobleck, Play Dough, Volcano Eruption, and Film-Canister Rockets). I included these experiments because they are easy for children to replicate at home and they seem to be the crowd favorites. The booklet cover was printed in color to grab the children's attention but the internal pages were printed in black and white to reduce the cost. To provide the children with a sense of ownership, I titled the book *My Own Science Day* and included a space for their name on the inside, as well as a section for their own scientific notes. The final cost for 400 booklets was \$851.79, which was well under budget. I also spent my personal time corresponding with Angel Silvers, Administrative Coordinator for the Cardinal

Greenway, in order to ensure that everything was in line for the event. Below is a timeline of events in the preparation of Science Day on the Greenway 2007.

1/22/07

- First SAACS meeting of the semester to discuss Science Day 2007

1/25/07

- Filled out an application to reserve the Cardinal Greenway for our event
- First contact with Angel Silvers, Administrative Coordinator for Cardinal Greenway, Inc.

2/22/07

- Sent a Certificate of Insurance from the BSU Office of Student Organizations to the Cardinal Greenway

2/20/07

- SAACS meeting to brainstorm for booth ideas
- Volunteer request e-mail sent out to a variety of BSU organizations
- Work to obtain sponsors/donations getting started

3/6/07

- SAACS meeting to try out some new experiments for booths
- Delegated sponsor search

3/22/07

- Meeting with Dr. Ribblett to discuss final plans for experiment booklet
- Received confirmation from the Cardinal Greenway for our event on April 21
- Received an invoice for chair rental

4/10/07

- SAACS officers meeting to organize booths for volunteer meetings
- Sponsor search

4/11/07

- Volunteer orientation meeting

4/12/07

- Alternate volunteer orientation meeting
- SAACS bake sale for extra fund-raising

4/13/07

- Turned in final proof for experiment booklet to Hiatt Printing

4/16/07

- Experiment booklets finished and picked up
- Flyers distributed at local elementary and middle schools
- Alternate volunteer orientation meeting

4/17/07

- Alternate volunteer orientation meeting
- Arrival of Chemists Celebrate Earth Day Merchandise

4/21/07

- Science Day on the Greenway

Science Day on the Greenway

7:00 AM - After all of the preparation and organization, it was finally time for the big day. At this time I was just waking up to get ready for the event, but Dr. Ribblett and a few other SAACS members were picking up the generator and other materials to take to the Greenway. The moon bounce and other carnival games were delivered by Three Bears Concessions

8:00 AM – I arrived at the Cardinal Greenway along with all other volunteers who opted to set-up for the event. All volunteers were given an event T-shirt and a coupon from Outback Steakhouse. At this time, we unpacked the vans, taking booth supplies to the end of the Greenway, where the booths would eventually be set up. Soon after unloading the vans, we realized that the depot was not open for us to pick up the tables and chairs that we reserved for the event. Later, we realized that this happened because of miscommunication with the Cardinal Greenway staff. We were unsuccessful in reaching anyone to open up the depot, so Dr. Ribblett was forced to make a quick trip to Menards to purchase fifteen tables for the event. While he was gone, set-up volunteers separated all booth materials and carried them to the area of the Greenway where the booths would eventually be placed. Dr. Ribblett returned around 9:15 with the tables, but we still did not have any chairs.

9:45 AM – Set up was completed at this time. Additional volunteers arrived at the Cardinal Greenway, received their T-shirt and coupon, and were directed to their respective booths before the start of the event. Each experimental booth was manned with at least two volunteers. Approximately five

volunteers were designated to supervise the carnival area, and two were given the responsibility of serving food to the guests at the refreshment booth.

10:00 AM – Science Day on the Greenway officially began! A few participants began to trickle in and stop at our various booths. Bags with a copy of the experiment booklet inside were placed at each end of the Cardinal Greenway so the children would have a place for their goodies as they continued down the trail.

11:00 AM – More participants began to show up and booths were beginning to get busier! Many participants were getting hungry and began to head down to the food area located at the depot. The free refreshments included hamburgers, hot dogs, chips, and drinks. I rode a bike up and down the Cardinal Greenway to make sure all volunteers had everything they needed to run their respective booths. I also handed out coupons for Outback Steakhouse to the families participating in the event. A Cardinal Greenway employee finally arrived, so we were able to obtain some chairs for the volunteers.

12:00 PM – A new set of volunteers arrived to relieve some of the early workers. This was, by far, the busiest hour of the event with a large number of children at nearly every booth. The refreshment station also was very busy at this point in time. After checking in all of the new volunteers, I continued to ride up and down Cardinal Greenway to make sure all volunteers were doing alright.

1:00 PM - The event began to slow down, but there was still a steady stream of people at each booth. We began to clean up trash and made sure each booth was clean before we began the ultimate clean up at 2:00.

2:00 PM – The event had come to an end and all remaining volunteers helped to clean up the event and return chairs to the depot area. Booth materials were placed in their respective boxes and then carried to the closest end of the Cardinal Greenway. Volunteers then helped to load up the vans and all materials were returned to the SAACS office at Cooper Science.

3:00 PM – It was now time for all volunteers to relax and nurse their brand new sunburns after a long day outside.

Analysis of the Event

All of the hard work put into Science Day on the Greenway 2007 was worth it; the event turned out to be a great success. We estimated the attendance to be between 500 and 600 people, which is an improvement from last year's event. The weather was perfect for the event, with sunny skies and temperatures around 75 °F all day. This was wonderful considering that just one week prior it was sleeting and snowing all day. There were approximately 72 volunteers who signed up for the event, with around 50 actually showing up to work their shift. This abundance of volunteers made everything run very smoothly and made things easier for everyone involved. The giveaways that we had at the event were a big hit with the participants. The children loved that they were going home with a bag *full* of goodies and things that they made at the experiment booths that day. The Science Day T-shirts were also a big hit with the volunteers. Several participants showed interest in purchasing a T-shirt, so we will make them available for sale to the public at next year's event. We

received donations of \$116 at the event, which went to SAACS and toward a donation to the Cardinal Greenway.

Although the event went extremely well, there were a few things that we could improve upon for next year. The only major problem of the day was the locked train depot, which resulted in us having to purchase the tables and having to wait until around 11:00 for the chairs. I failed to send a confirmation e-mail to Cardinal Greenways prior to the event to make sure we would have access to the tables and chairs. Next year, this problem can easily be avoided with proper communication. Another area in which we had room for improvement was with our sponsorship/donations. We received generous donations from the Indiana section of the ACS and Outback Steakhouse, but did not have any luck with any other organizations. We will need to start the search for donations and sponsors much earlier next year, for there is no limit to what we can do with this event if we have the proper resources.

Works Cited

Creative Kids at Home. 2007. 3 February 2007 <www.creativekidsathome.com>.

Dang, Loc. "Science Day on the Greenway." Honors Thesis Ball State University, 2004.

Film Canister Rockets. 2007. PBS Kids. 3 February 2007

<http://pbskids.org/zoom/grownups/clubzoom/pdfs/ClubZOOMsci_E_filmcanister.pdf>.

Items Given Away at the Event

- *My Own Science Day* – Experiment Booklet
- Pencils from the BSU Chemistry Department
- ACS Chemists Celebrate Earth Day Merchandise

- Earth Day Stickers



- Earth Day Squeeze Balls



- "Hooray for Chemistry" bags



- Nan-O-Moles



- Blue Recycle Bags

Design a T-Shirt Contest

Official Entry Form

Winner will receive a \$100 Gift Card from Toys-R-Us!

Child's Name: _____ Age: _____

Parent's Name: _____ Phone: _____

Return to: **Jason Ribblett, Dept. of Chemistry, Ball State University, Muncie, IN 47306.**

Entries must be received by Monday, April 30th to be eligible.

Contest is open to children ages 0 to 12 years.

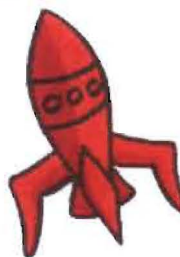
4th Annual

SCIENCE DAY ON THE GREENWAY



SATURDAY, APRIL 21ST, 2007

10:00AM TO 2:00PM



LOCATED ON THE CARDINAL GREENWAY
BETWEEN THE MCCULLOUGH PARK TRAILHEAD
AND THE WYSOR ST. TRAIN DEPOT

Includes...

- Exciting Hands-On Science Experiments
- Really Cool Demonstrations
- Giant Volcano and Twister in a Jar
- Play Area with Moon Bounce
- T-shirt Design Contest
 - Winner Receives a \$100 Toys-R-Us Gift Card
- Free Take-Home Experiment Book for Everyone



FREE Admission and Parking
Children must be accompanied by an adult.



Brought to you by:

BSU Student Affiliates of the American Chemical Society



Sponsored by:

- the Indiana Section of the American Chemical Society
- area businesses

Questions? Call or E-mail

Jason Ribblett 285-8074 jwribblett@bsu.edu or Lindsey Huber 574-248-0284 lehuber@bsu.edu



**VOLUNTEERS
SETTING UP!
8:00 AM**



**ME AT THE
DONATION
STATION**



VOLCANO

SLINKYS





RECYCLE!

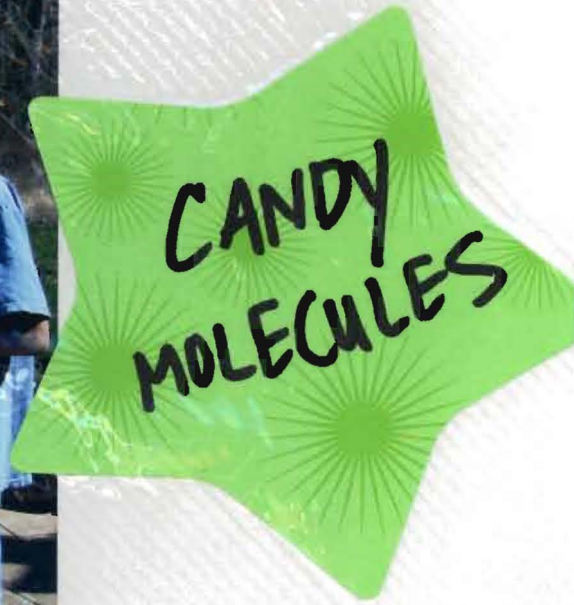


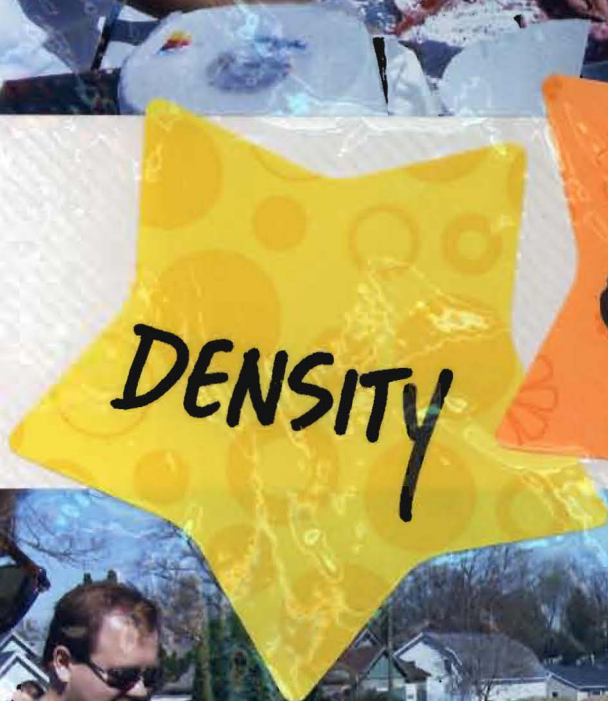
HAPPY
VOLUNTEERS
AT DISAPPEARING
COLOR



KITCHEN CHEMISTRY









FILM CANISTER
ROCKETS

SLIME







